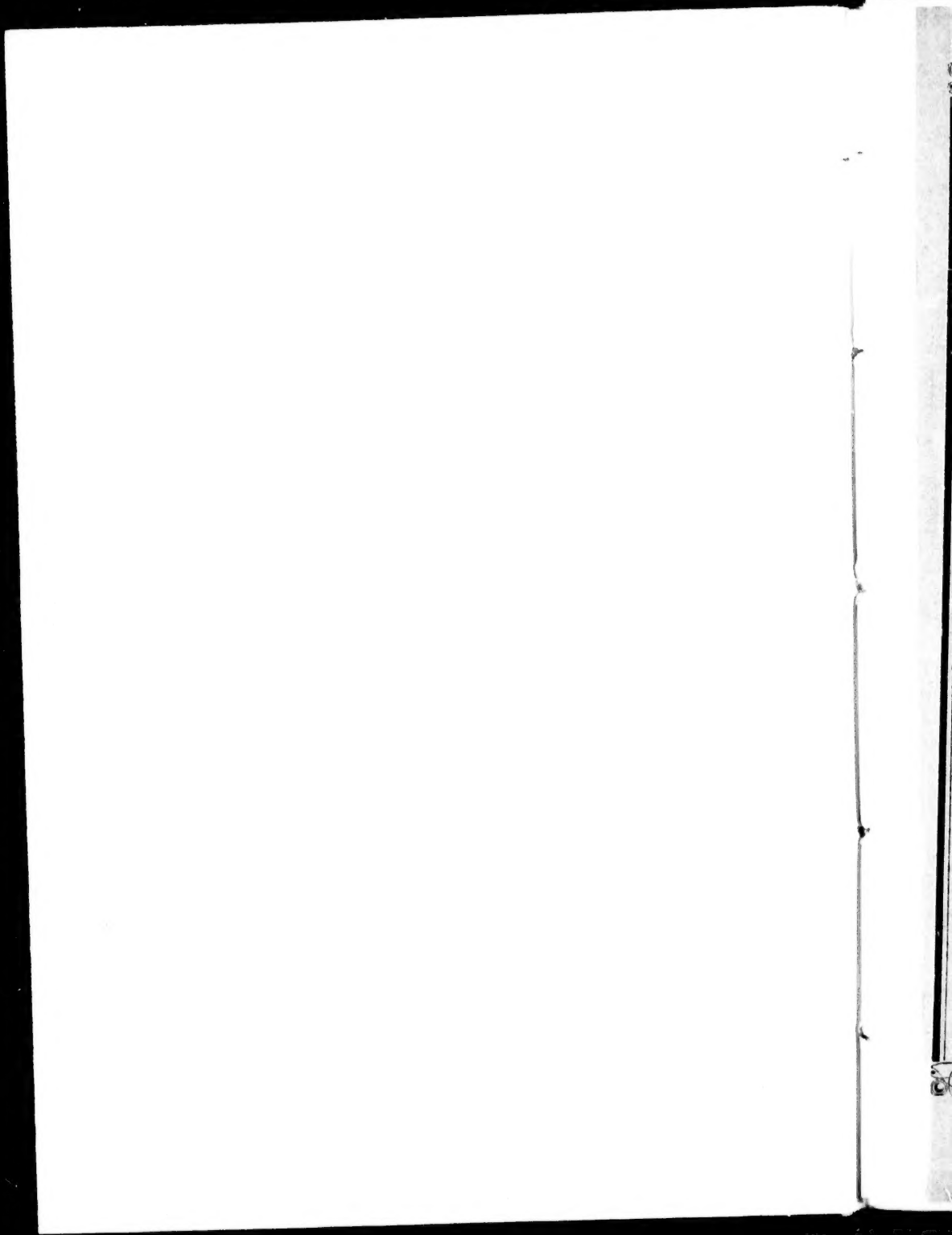




LECTURE
ON THE HURTFUL QUALITIES
OF
SPIRITUOUS LIQUORS

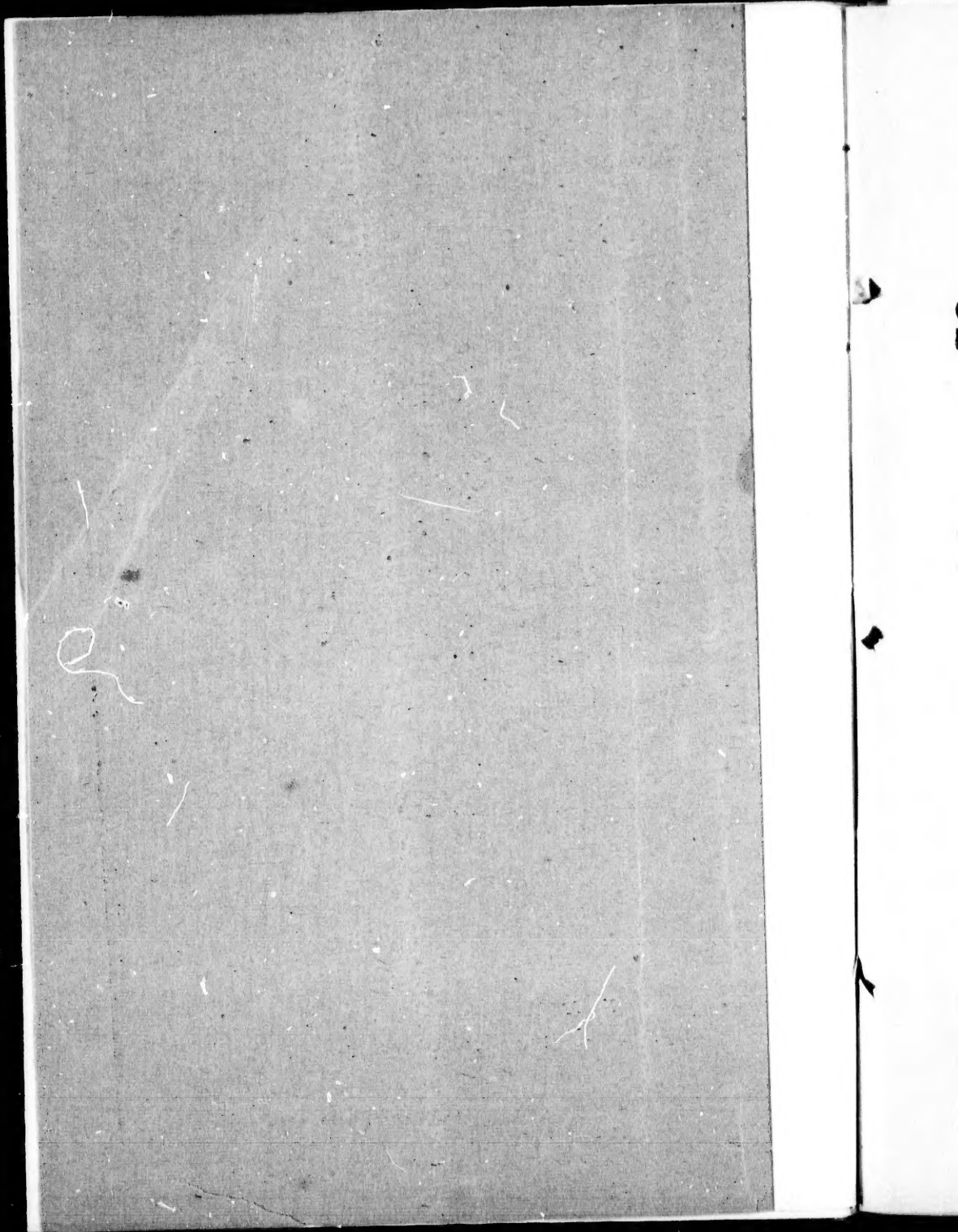
DELIVERED IN QUEBEC

BY

Rev. L. P. PAQUIN, O. M. I.

Late Professor of Engineering & Chemistry.

QUEBEC :
N. S. HARDY, BOOK SELLER,
Notre-Dame Street, Lower-Town.



LECTURE
ON THE HURTFUL QUALITIES
OF
SPIRITUOUS LIQUORS

DELIVERED IN QUEBEC

BY

Rev. L. P. PAQUIN, O. M. I.

Late Professor of Engineering & Chemistry.

QUEBEC :

PRINTED BY C. DARVEAU,
82, Mountain Hill.

1880

Acci

1880

(9)

ENTERED, according to Act of the Parliament of Canada, "in the
year one thousand eight hundred and eighty, by L. P. PAQUIN,
O. M. I., in the Office of the Minister of Agriculture.

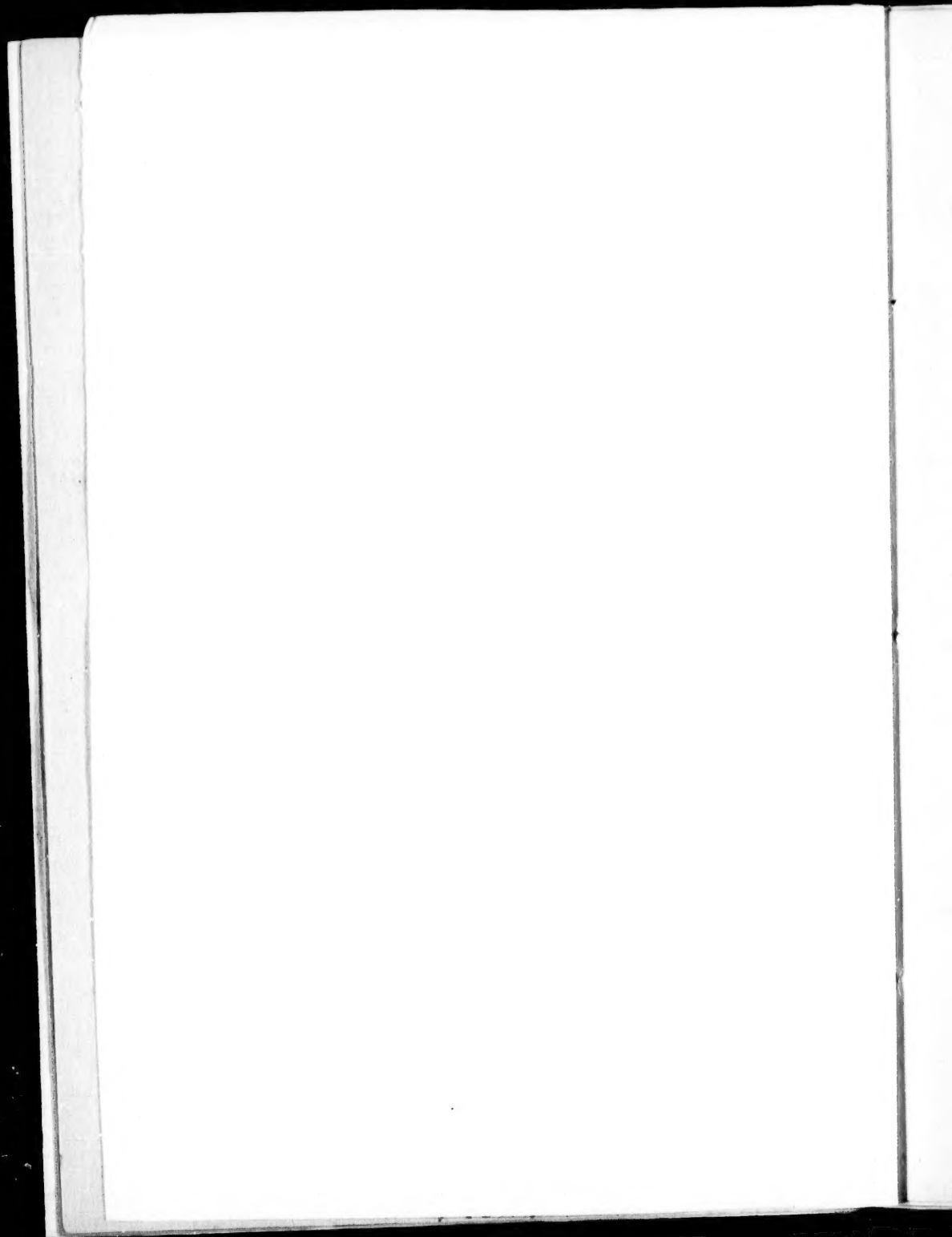
78024

LECTURE
ON THE HURTFUL QUALITIES
OF
SPIRITUOUS LIQUORS

GENTLEMEN,

When an epidemic rages in the country, when it breaks out in a city, all the inhabitants are seized with alarm and filled with anxiety for themselves and for the safety of those who are dear to them. What precautions they take in order to escape the danger !

There is an epidemic which lays waste to whole nations, which goes forth spreading ruin on all sides. Amongst the numberless calamities which affect and afflict humanity the most terrible and dread-inspiring of all is that of DRUNKENNESS. Firstly, because it is



LECTURE
ON THE HURTFUL QUALITIES
OF
SPIRITUOUS LIQUORS

GENTLEMEN,

When an epidemic rages in the country, when it breaks out in a city, all the inhabitants are seized with alarm and filled with anxiety for themselves and for the safety of those who are dear to them. What precautions they take in order to escape the danger !

There is an epidemic which lays waste to whole nations, which goes forth spreading ruin on all sides. Amongst the numberless calamities which affect and afflict humanity the most terrible and dread-inspiring of all is

THAT

a tyrant whose imperious sway at once extends over all peoples and all classes ; secondly, because, unlike the cholera or other plagues, it is proof against every effort of man and society to uproot it, to stay its course, to prevent it from poisoning the successive generations ; and finally, because men themselves its victims suffer, not only with indifference, but even with delight, its ravages. Nay, what is still more astonishing, they willingly sacrifice to it their happiness and their lives. Behold the daily laborer, whose earnings scarcely suffice to purchase the bread necessary for his wife and children, even he will dearly pay for the privilege of being ranked amongst the victims of intemperance ! Who is there, let him be ever so well versed in statistics, who can count the number of those unhappy men and wretched women, who daily sacrifice health, yes more than health, peace and happiness, upon the foul altar and in the polluted temple of Bacchus ? Could the spirits of those thousands, who to-night sleep in their untimely and self-made graves, come forth and stand in our midst, what a fearful chorus would arise and in what powerful tones would they tell us that the abuse of intoxicating

tends
ndly,
agues,
n and
o pre-
enera-
selves
erence,
what
acrifice
Behold
earcely
for his
ly pay
gst the
ere, let
es, who
oy men
acrifice
nd hap-
olluted
pirits of
in their
orth and
chorus
s would
xicating

a tyrant whose imperious sway at once extends over all peoples and all classes ; secondly, because, unlike the cholera or other plagues, it is proof against every effort of man and society to uproot it, to stay its course, to prevent it from poisoning the successive generations ; and finally, because men themselves its victims suffer, not only with indifference, but even with delight, its ravages. Nay, what is still more astonishing, they willingly sacrifice to it their happiness and their lives. Behold the daily laborer, whose earnings scarcely suffice to purchase the bread necessary for his wife and children, even he will dearly pay for the privilege of being ranked amongst the victims of intemperance ! Who is there, let him be ever so well versed in statistics, who can count the number of those unhappy men and wretched women, who daily sacrifice health, yes more than health, peace and happiness, upon the foul altar and in the polluted temple of Bacchus ? Could the spirits of those thousands, who to-night sleep in their untimely and self-made graves, come forth and stand in our midst, what a fearful chorus would arise and in what powerful tones would they tell us, that the abuse of intoxicating

liquors is the greatest calamity of the age. There is no one to deny that in our day drunkenness causes the ruin of multitudes, spreads destruction amongst all grades of society. The fact, alas, is too self-evident to require proof.

I.— Immediate effect of Spirituous Liquors on the human frame.

The active principle of all spirituous liquors is a colorless, volatile and inflammable fluid called by Chemists *Alcohol*.

Alcohol is produced by the fermentation, under certain conditions, of the juice of the grape, of the apple, of the pear and of other fruits. It is also produced when saccharine matter, such as grain steeped in water, is fermented by the addition of a suitable substance. In such fermented liquors, alcohol is found in quantities comparatively small, seldom over 15 per cent; consequently the hurtful influence is to a certain extent neutralised by the other substances of which the liquor is composed.

Wine, as every one knows, owes its origin to the patriarch who survived the deluge: cider, beer, and other liquors produced by the

fermentation of the juice of certain plants, were also known in olden times. It was only about the 11th century that man, creature ever prone to abuse the gifts of Divine Providence, commenced to extract alcohol by distillation. The first distiller, certainly, never imagined that he was placing within the reach of man an instrument of self-destruction. He little thought that he was calling into life a dread spirit that would stalk forth amongst the nations spreading sorrow and desolation on all sides.

Alcohol, first made by the Arabs, * from whom the name came, was at first considered to be a poison. It was afterwards supposed to be a remedy, and physicians prescribed it as a stimulant for those of weak constitution, —therefore the French called it *Eau-de-Vie*. (Water of life.)

In the 16th century it ceased to be looked upon as a drug and became an object of ordinary diet.

In the 17th century, the sale of alcohol was no longer confined to the druggist but it was sold publicly on the streets. It soon found its

* Some say the Chinese were the first distillers of alcohol.

way into the cottage of the poor and the palace of the rich.

In the 18th century its abuse became more apparent. Its ravages were then for the first time noticed and the alarm spread as when the epidemic breaks out. Thus in the year 1764 in St. Petersburg alone, some 635 persons died from its effects.

In Sweden, Gustavus III established the privilege of selling distilled liquors and imposed thereon a tax for the benefit of the State; but owing to the number of victims to intemperance, measures had soon to be taken to restrict that branch of the revenue.

The use of intoxicating liquors was introduced into England by an act of Parliament which encouraged distillation, and in the year 1744, brandy was sold in all the shops of the capital. The physicians called the attention of the public to the large number of persons who were ruined by this abuse, and the government took certain steps to lessen it.

These few details should suffice to show how the governments, which at first authorized and encouraged the manufacture of alcoholic liquors, were soon obliged to take measures in order to check the sad results of

their unwise and precipitate action. They, consequently, imposed a heavy duty upon the liquors and punished drunkenness as a misdemeanor. But the fire had been kindled. The conflagration had broken out and the very objects brought in order to extinguish it, but served as fuel to feed and augment the flame. With the vessel of the first colonists, it found a way to America. Soon the dusky child of the primeval woods learned to love and long for what he so fitly called "*fire-water*." To-day the reign of intemperance, of the tyrant-King Alcohol, is unbounded. His sway extends into the most distant regions, and his slaves are to be found on every shore, from the frozen circle to the torrid line. A million hands are at work, digging the graves for his unhappy victims ; and even those who see before them the yawning abyss, still turn to the cup and sip the draught of death. Behold yon sombre cortage wending its solemn way towards "the last home of youth and eld ;"—a by-stander remarks, " were it not for liquor that man would not be cold in death to-day." Sad, yet beautiful expression ; but alas ! that same person turns from the mournful sight of the funeral throng to enter the first house where

the poison of life, the curse of nations, the draught of intemperance, is sold.

Intoxicating liquors are generally a mixture of alcohol and water, in equal parts, with the addition in less quantity of some other substances that give a color or impart a peculiar taste. To have an idea of the action of these liquors on the system, try the following experiment. What distillers call *high wine* generally contains 15 per cent of water, and spirits of wine as sold by respectable druggists, contains about 5 per cent of the same. Apply a few drops of this liquid to the back of your hand. You will first find a cold sensation, the consequence of the evaporation of the liquor. This feeling is succeeded by an irritation causing heat and redness. Apply some of it to a cut, and at once you feel a burning succeeded by rapid inflammation. A few drops placed on the tongue cause instantaneous inflammation. Judge, therefore, what a powerful irritant this alcohol must be.

Taken internally, in its pure state, it is a sharp corrosive poison which, even in moderate doses, will cause inflammation of the stomach and intestines, to such an extent as to destroy the mucous membrane and bring on death.

The experiment has often been made upon the brute animals.

Mixed with water, its action is much less violent, yet is that of an irritant. The moment it enters the stomach, it stimulates powerfully and causes a rapid increase of the secretions of this organ. It acts as a toxical poison and cannot, therefore, without injury be introduced into the system. It is a traiterous poison, concealing for a time its real action and effect under the appearance of doing good. The drinker of alcohol little dreams that what he considers of great benefit to him is in truth undermining his system.

At first, by stimulating the organic functions, it gives a temporary superabundance of vital force and muscular energy. It also excites the imagination and gives to the heart a feeling of joy and gladness, thus encouraging the victim to renew the dose. Soon, however, the feeling of excitement gives way to one of disorder. The understanding no longer its own master,—the ideas mixed and words uttered without meaning or sense—all betray the wild confusion that reigns in the mind. Then comes forth the true dispositions of the man, the real sentiments so long covered over

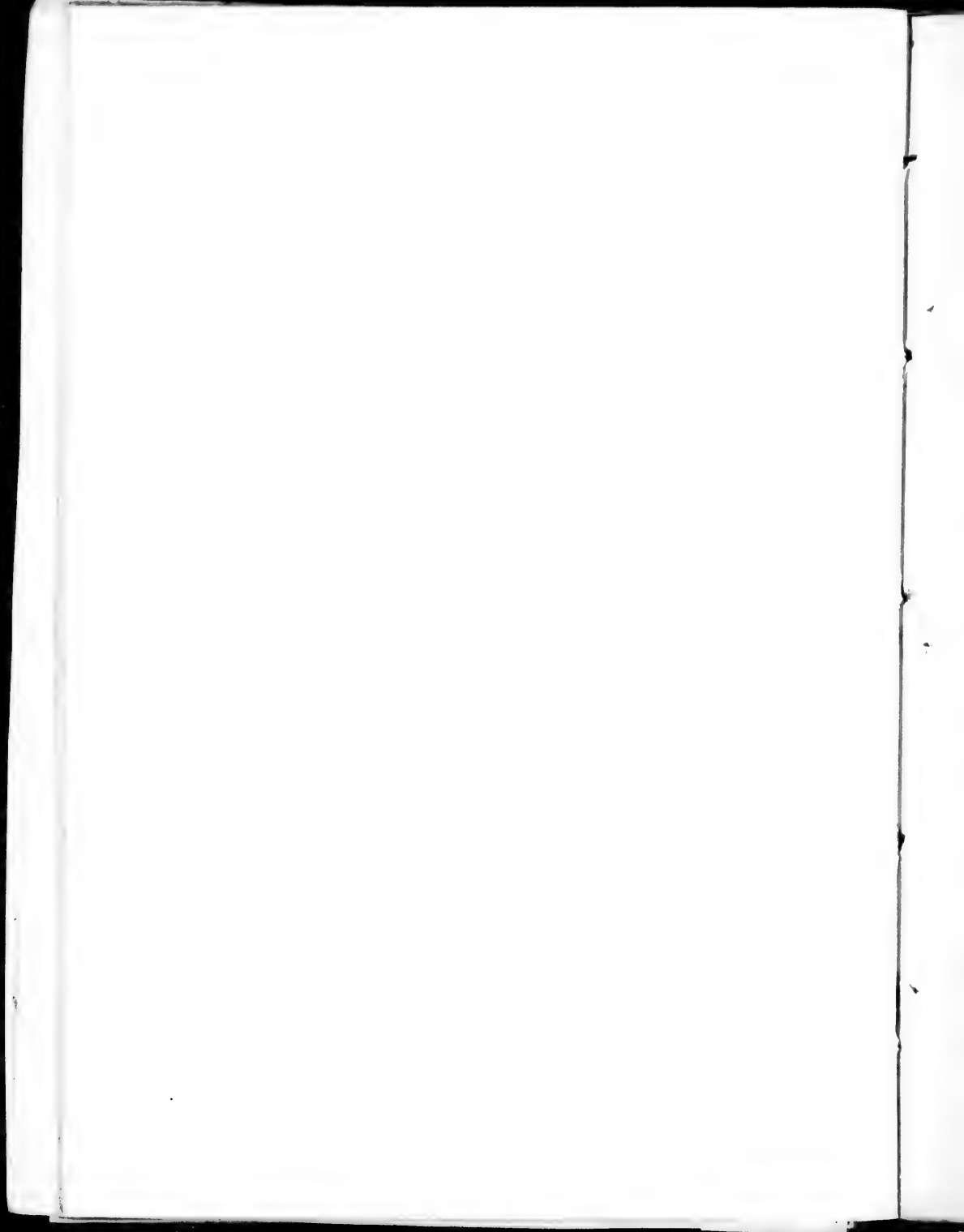
from the eye of the world. Then the man of irritable temper grows angry, threatens, strikes; the man of tender heart tells his sympathy aloud and expresses his affection for all those around him; the man of melancholy, sheds tears, speaks of the grave and conjures up a thousand sad and mournful phantoms; the fool laughs at every one and every thing. The derangement continues, the eyes are filmed and a constant mirage cheats the sight, the brain reels and the tongue cleaves to the mouth. The motive power is disordered; he stumbles, totters, staggers vainly striving to retain his position, he still more vainly attempts to grasp the objects around him.

If the drinking be continued long, these effects are followed by a general depression of the system. This is the third stage of drunkenness. Lost in the mazes of a delirium, the words are senseless that fall from his lips, the eye is dull and haggard, the eye-lids are heavy and half closed, and the man can no longer raise himself up. Still he can take the glass and bear it to his lips and quaff the last drink. It is the last act of mind or body. He falls into a state of complete drunkenness in which all the organic and intellectual actions are

suspended. His intellect is lost in a lethargy from which nothing can awake him. It is a real apoplexy, called by physicians a state of *coma*. The drunkard is now but a senseless heap ; his eye is glassy and lifeless ; the only sign of life remaining is a hard and irregular breathing, he is *blind* or *dead drunk*. You see by this description that there are four degrees in drunkenness, first a general *excitement* to which succeeds *disorder* in all the faculties, followed by universal *depression* and ending in a complete *suspension* of all the functions—an apoplectic sleep. These four degrees are found alike in the intellect and the sensitive and the motive organs.

Frequently a person in the last stage of drunkenness falls into violent convulsions. More frequently he passes from the drunken sleep to the sleep of death. Sometimes death ensues very rapidly, nay almost instantaneously, especially when the drunkard is exposed to great cold or suddenly passes from a highly heated atmosphere into one exceedingly cold. He may fall a victim to asphyxia, congestion of the lungs or apoplexy. Of all those who reach the last stage of drunkenness about one fifth never recover. Such is

f
.
l
3
-
l
s
-
o
7.
-
is



the average result, as taken from the reports of many eminent physiologists who have made this question the object of serious and persevering study.

Besides the nervous troubles caused by intemperance, the drunkard often complains of violent pains in the region of the liver, an organ upon which alcohol produces most injurious effects. Although alcoholic poisoning is not always followed by death, it generally causes a sickness which lasts several days after the fit of drinking is over. The mouth and tongue feel thick and are heavily coated; the digestive organs are all disturbed, and, consequently, there is no appetite; sick stomach, pains in the bowels and vomiting are the sad results of drinking. The disease is more or less serious according to the quantity of liquor consumed and the habit contracted. It is a real case of poisoning; and if it does not, in every case, cause death, it is nevertheless hurtful to the entire system and more especially to the nerves, the digestive organs, the liver and the kidneys.

II. Chronic injuries caused by the continued abuse of alcoholic liquors.

The injurious effects of alcohol are not confined to the derangements so far alluded to which arise from the imbibing, at once, of too great a quantity of spirituous liquors. Besides these immediate effects, which come and go with the excess, there are other rarely considered. The latter are the result of a long and constant use of liquors even though never taken to excess at any one time. The poison in this case works slowly. It is therefore the more terrible and more dangerous. Here I would remark that alcohol not only injures professional drunkards, but still more surely undermines those who, while considering themselves models of sobriety, are constantly taking spirituous liquors, as they say, in moderation.

These morbid affections constitute a disease which is called by physicians Alcoholism.

When alcoholism, the result of intoxicating drinks, takes root in the frame, it becomes chronic and affects the whole system ; no tissue can escape its poisonous influence, no organ is safe from its attacks. It acts at the same time

upon the physical, intellectual and moral parts, and its baneful influences go down to posterity. Physiologists note a certain likeness between this and other diseases, such as scrofula, syphilis and others. "Alcohol," says one of the most eminent men of science, "acts on the human frame as a poison, a virus, which penetrates the whole system and produces a morbid condition of the entire substance."

Action of alcohol on the body.—To give you an idea of the disastrous effects of alcohol on bodily health, it will suffice to place before you a theory based on experiments which were conducted with skill and perseverance and the fidelity of which modern scientists admit. According to this theory alcohol absorbed by the system remains, unchanged in nature, therein, and is finally eliminated in the same state as when absorbed. It enters, passes through and quits the human frame unchanged. Every place it leaves the traces of its passage. It circulates in the blood without becoming blood. It thus penetrates every tissue, is carried into every organ and finally issues in perspiration from the skin, from the kidney in the urinary deposit, and from the

lungs by exhalation, evident in the breath of the alcohol consumer..

One immediate consequence of this theory, which is worthy of note, is that alcohol does not nourish. It is therefore a mistake to drink alcoholic liquors, imagining thereby to receive strength and nourishment as from food. An essential condition of food is that it loses its own identity by digestion. Food must cease to be what it was in order to become blood and build up or restore the waste of the human system. Alcohol, on the contrary, by remaining in its first state, a foreign substance to the blood by leaving no trace or effect behind save destruction, protests against being classed as food. The doubtful quality attributed to it, of appeasing hunger, may have given rise to the idea that it was a nourishment. However, according to world-renowned scientists such as Lallemand, Perrin and Daroy, who were the first to remark the unchangeableness of alcohol in the human frame, we learn that "if alcohol seems to nourish and to appease hunger, its action is not in reality restorative; it is the momentary stimulus given to the nervous system that causes this feeling of nourishment. The want of appetite among those of

drinking habits is more frequently the result of chronic irritation of the digestive organs and is not caused by any nutritive quality of spirituous liquors." The alcohol contained in those liquors has merely for effect to *stimulate* when in small doses, to *excite* and *irritate* when in larger ones, to *stupify* when in great quantities, but it can never nourish or restore.

You may then perceive, gentlemen, that persons who to build up a shattered constitution or hasten convalescence make use of alcoholic liquors every day, are laboring under a false impression. Not only they fail to help the restoration of health, but, what is still more dangerous, they expose themselves to fall under the influence of alcoholism, a disease more common than generally supposed and of which I shall speak more fully.

There is many a man who was never in his life drunk and is yet a slave to the influence of this disease. It comes with a slow but certain step, and frequently the person who thus lets it gain upon him is more apt to contract the malady than the regular drunkard whose bouts are separated by intervals of sobriety. On this ground and in consideration of these facts I would advise those of weak health to

avoid, as a measure of prudence, the use of whiskey or brandy.

Because physicians order whiskey or brandy in certain cases it does not necessarily follow that alcohol is, by its nature, inoffensive. Like other stimulants, it loses its injurious qualities under certain conditions. Opium, Epsom Salt, Senna and Castor-oil are often prescribed by physicians, yet, it does not follow therefrom that persons in good health should make use of them as objects of regular diet. Use intoxicating liquors only when prescribed by physicians and be as careful to confine yourself to the exact terms of the prescription and act as scrupulously as you would were you ordered to take any other drug, then alcohol will cease to be the terrible agent of destruction and drunkenness, with its host of miseries; alcoholism with its thousand terrors will disappear for ever from society.

I have thus laid down a theory which is supported by the authority of the most learned men of the age, a theory, according to which, alcohol cannot be looked upon as food in consequence of its effect of removing hunger being due to a temporary stimulation of the nervous system or to a chronic irritation of

the digestive organs. Several physiologists attribute this effect of alcohol, merely negative as regards nutrition, to its action on certain phenomena which constitute the process of disassimilation. It diminishes the quantity of carbonic acid to be exhaled, and, in the same measure, lessens the activity of the intravascular oxydation, consequently the production of animal heat. This action of alcohol has for immediate result the delay in the waste constantly going on in the organs. It lessens that waste while adding nothing to the human frame.

This diminution of heat in the system, caused by alcohol, condemns that very common practise of travellers, who enter every tavern along the way, under pretence of warming themselves with a good glass of whiskey. This drinking causes a temporary warmth which soon gives way to lessening of natural heat. It is true the traveller feels less keenly the severity of the cold, but he likewise exposes himself to inflammation of the lungs and often to the danger of becoming a victim to intense cold and thereby perishing on the journey.

Alcohol remains in the human system from 14 to 16 hours. What injurious effects can it not

produce in that lapse of time? The digestive organs are the first to pay their tribute to alcoholism. The prolonged abuse of those liquors causes therein a series of diseases, beginning with dyspepsia and ending with ulceration of the bowels. The drunkard eats little and seldom ; all his appetite is gone. It is not that alcohol nourishes him, but the chronic irritation of the intestine destroys all desire for food. The work of digestion thus becoming defective, the disorder is accompanied by vomiting, especially at rising in the morning.

But this is the least of the sufferings of the one who habitually consumes alcoholic liquors. These attacks of indigestion becoming more and more serious, and accompanied by acute pains, show that the interior of the stomach is seriously affected. Its coatings are thickened, the mucous membrane becomes hard on some places, soft in others, and finally is covered with ulcers. A celebrated physician of Rouen, Dr. Leulet states that out of twenty six *post mortem* examinations held upon persons who died from intemperance, he found, in eight cases, the stomach ulcerated. A terrible disease, cancer in the bowels, is not unusually the result of alcoholic drinks.

Not alone the stomach is affected by intemperance, the liver becomes attacked by chronic congestion which leads to fatty degeneracy of that organ. This disease places, also, an obstacle to the circulation of the blood in the *veine porte*, and consequently lessens the secretions of bile, thus preventing the nourishment of the system and causing the victim to appear pale and lean.

Alcohol passing through the veins inflicts severe injury. "The continued excitement which the abuse of alcoholic liquors causes in the circulation," says Carpenter, "predisposes by itself for morbid action. This predisposition is still more increased by the contact of alcohol with the internal membrane of the system." Here the poison attacks the heart, that centre of circulation and seat of life. It cannot be disputed that the lives of men given to intemperance must necessarily be shortened by the constant passing and repassing, through this vital organ, of a blood mixed with alcohol. Have you ever remarked, when you had taken a glass or two of strong drink, how much more quickly your heart beat? Continue for a time that excitement of the heart, and, like the liver, it will become affected. its tissues

will change and a soft, fatty degeneracy will set in. A man in this morbid condition may well be compared to the tree of unsound core that totters to its fall. Yes, the man who uses to excess those liquors cuts off many and many golden links from the chain of his life.

Look at the drunkard in the face and even there you will perceive the injury done by the circulation of alcohol with the blood. It is the congestion of the blood in the smaller veins which thus bloats the face, reddens the nose and cheeks, cover the whole with pimples and carbuncles, in a word, gives to the victim of intemperance that unenviable appendage generally known as a *whiskey face*.

Alcohol is eliminated from the system by the skin, lungs and kidneys. On the last mentioned organ it produces the most injurious effects. It has been found in the urinary deposits, even twenty hours after it was taken into the stomach. This connection with the kidneys produces a disease called Bright's disease, to cure which art is powerless. A few moments after its absorption, alcohol begins to be exhaled by the organs of respiration. It has been proved, beyond doubt, that the

lungs causes the developpment of pulmonary diseases : lung fever, bronchitis, catarrh, pneumonia and consumption are the sad lot of the drunkard. His rough, harsh, hallow voice is the first symptom of pulmonary disorder.

I have not, as yet, spoken of the chronic effects of alcohol upon the nervous system. It is usually the first victim and becomes the seat of diseases which are often life-lasting.

The slave to drink soon perceives that his nerves are unstrung. His fingers become less supple, his hands tremble and the tremor gradually passes into the arms. A general weakness takes possession of the frame. Often spasms, cramps, convulsions or epilepsy ensue. It is common to find cases in which epilepsy disappears with the cause and returns with each relapse into intemperance. The unfortunate sufferer feels a creeping sensation in his hands and feet, which renders sleep broken and unpleasant. If the drunkard sleeps it is not to rest. Tormenting and fear-inspiring dreams haunt his nights. He sees his house on fire, he sees himself attacked by thieves and murderers. Dogs, cats, bears, wolves, in fact a complete menagerie is in his room. They howl and jump about him. The

morning light finds him more fatigued and worn out than the evening had left him.

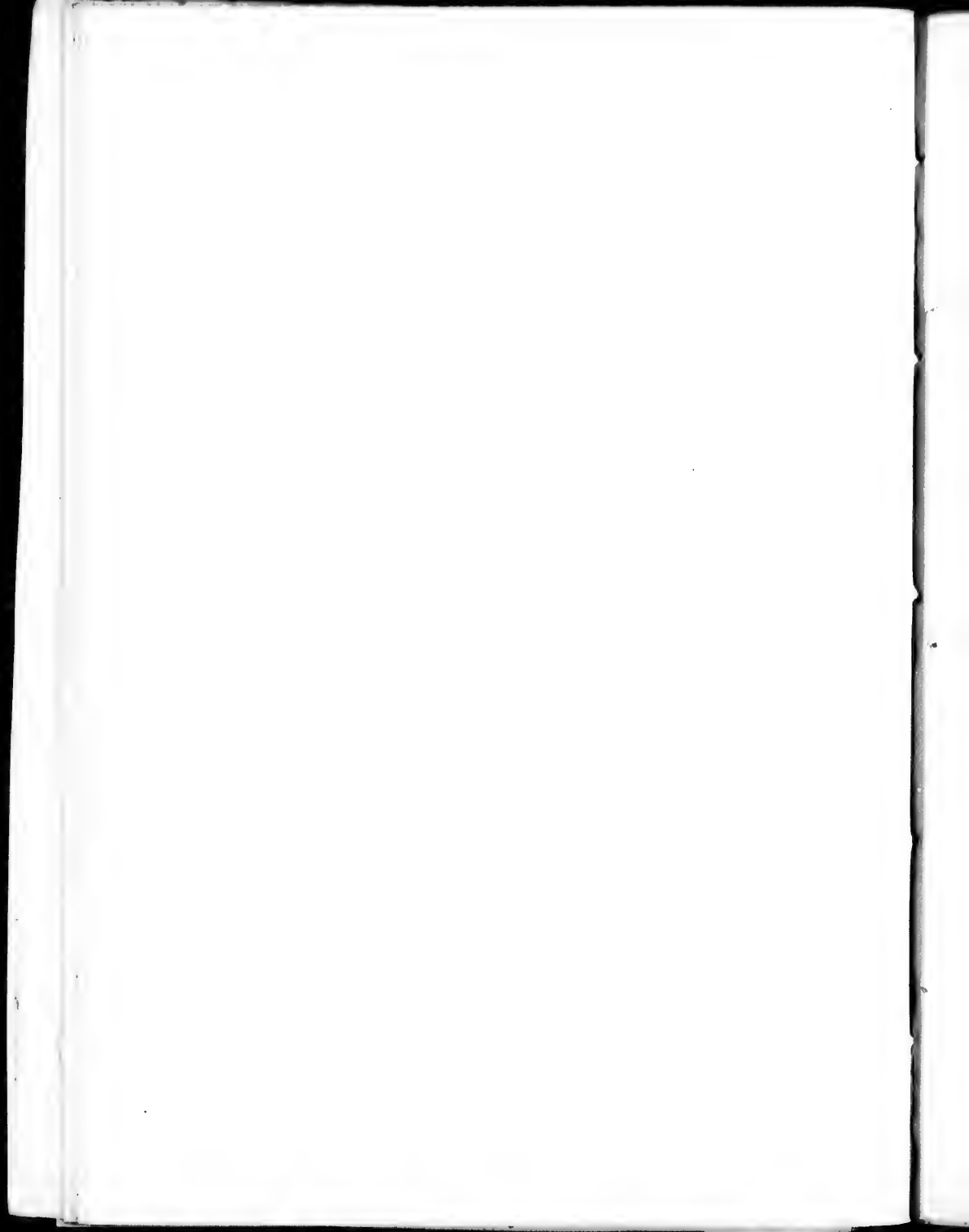
There are even cases, less frequent it is true, in which the drunkard sees himself during day-time pursued by those phantoms. "One of my patients" says Dr. Marcet, "when in the street, saw ropes hanging over his head; another saw every object double; a third saw all kinds of reptiles creeping along the ground. When gazed at steadily these images would disappear. Thus, for instance a driver suffering from chronic alcoholism suddenly stops his horses or turns them aside in order to avoid obstacles which he sees very plainly at first, but which he finds afterwards to be mere creatures of his imagination. At other times, when reading a book, the victim is suddenly wrapped in darkness, and for a few moments seems completely blind."

Alcohol has its indirect as well as direct action upon the human organization. Drunkards are more subject to certain diseases than are other persons. In the habitual drinker, disease assumes a peculiar form and becomes usually serious, its cure being more difficult owing to the want of resistance found in the disorganized system. Therefore a sickness,

gued and
him.

it is true,
lf during
as. " One
when in
his head ;
bird saw
e ground.
es would
er suffer-
ly stops
to avoid
y at first,
be mere
er times,
suddenly
moments

as direct
Drunk-
ses than
drinker,
becomes
difficult
d in the
sickness,



from which a sober man could recover with comparative ease, very often proves fatal to the intemperate man.

III. Action of alcohol on the mental faculties.

The mental no more than the physical faculties escape the baneful influences of alcoholic poison, and the saddest effects are the injuries inflicted upon the mind.

The effects of alcohol on the mental faculties may be classed under three heads: 1° A temporary loss of reason, which soon again asserts itself; 2° A lasting weakness of the mental faculties; 3° Complete loss of mind, or madness.

No doubt some of you have witnessed the painful sight of a person in *delirium tremens*, that awful disease of drunkards, the chief symptom of which is the sight of hallucinations.

You have seen the drunkard start from his slumber, terror in his haggard looks, fear in his glossy eye, to fight with some fancied enemy, the creature of his unguided and irregular imagination. This delirium often lasts for days and even weeks. It may end in three

ways: by the return of reason after a long and sound sleep; often it ends in complete stupidity or insanity; finally in death. In the latter case death may come on slowly and from exhaustion, or may succeed a fit of convulsion.

Another consequence of these hallucinations is a desire to commit murder or to run away. Therefore have we frequently seen the delirious drunkard, in attempting to escape from some imagined foe, rush against a wall and dash out his brains, leap from a window or throw himself into a river.

There are other cases of partial or temporary delirium which cause a feeling of shame, of despair, or of fear; this especially affects melancholy persons. It is called by physicians *Lypemania*. The characteristic of this mental disturbance is a desire to commit suicide. And many of those who commit this awful crime are the victims of intemperance. Is not this the saddest consequence of drunkenness? The noblest part of man, his glorious intellect injured, his mental faculties lost!

The loss of reason is generally accompanied by paralysis, the last stage of alcoholism. Out of 1343 cases of general paralysis an eminent

physician found that 106 were due directly to the abuse of alcoholic liquors. Another result thereof is permanent madness or idiocy. The drunkard is often affected with a weakness of mind ending in a complete stupefaction of the intellect. He, in this state, merely vegetates. He is in, what is called, a second childhood.

What I have now said is founded on facts which prove that the greatest cause of insanity is intemperance.

The statistics of lunatic asylums prove the increase of insanity to be in proportion to the increased abuse of spirituous liquors. Thus in the asylum of Charenton in France, for nine years dating from 1826, we find 1557 patients admitted, of whom 124, or eight per cent, were the victims of alcohol. From 1857 to 1864 the number of patients whose insanity had the same origine was 227 out of 1146, or twenty four per cent. In the asylum of Bicêtre, in the department of the Seine, this same proportion increased from 13 to 25 per cent.

Dr. Browe of the Chrichton Asylum, Dumfriess, Scotland, in a paper on insanity, states that out of 52,920 cases of madness which he had studied, 10,717 were the results of intem-

perance. Those patients cared for in private asylums or at their own houses are not included in this calculation. "Is it not enough" says this writer, "that, in 50 years, drunkenness, should have made 10,000 lunatics? More striking still is the contrast when drawn between countries wherein temperance reigns and those where the population is generally intemperate. In Scotland there is one lunatic out of every 563 persons; in Spain there is one out of every 7,181. In Edinburgh, one sixth of those who have lost their reason, have lost it by intemperance, while in Palermo in Sicily, only one out of every twenty four can blame the same cause. In London, Dr. Bloomfield found from the statistics that 649 lunatics out of every 1,271, (about one half) lost their reason by drink.

These figures speak for themselves.

IV. Moral injuries caused by alcohol.

The abuse of intoxicating liquors is the first and perhaps greatest cause of moral degradation. The man who becomes the slave of drink loses all habits of industry; he who once was active, careful and enterprising, changed by alcohol, becomes lazy, negligent

and careless. He is ready to sacrifice his business, his family, and himself to the gratification of that all powerful and governing passion. He strays from saloon to saloon, and to the meanest of tricks would he stoop in order to satiate his thirst for liquor.

This moral degradation in the man is the cause of three great evils that afflict society, namely: unhappy families, pauperism and crime.

The misery which intemperance brings to the home of the drunkard is too evident in the number of wives separated from their husbands, by the number of children, off spring of drunken parents, who fill our prisons and reformatories.

As regards pauperism, did I not fear to abuse of your patience by citing figures, I would prove to you by statistics that two thirds of our paupers are reduced to that state, either directly or indirectly, by drunkenness.

Magistrates, judges, governors of prisons, inspectors of police and all those who are charged with the administration of justice are unanimous in declaring that the greater number of crimes are due to intemperance. Out

of 33,832 inmates of different prisons in Ontario during the space of five years—from 1868 to 1873, at least 21,519 were brought there by drink. During the three years from 1869 to 1872 the prisons of the province of Quebec received 10,350 prisoners of whom 7,866 were led into crime by liquor.

According to a statement, furnished by the Recorder of Montreal city, the total number of arrests for the years 1871, 1872 & 1873 were 32,611; and of these 21,043 were either for drunkennes or for crimes caused by drunkenness.

Mr. Penton, the chief of police in the same city, in his report for 1873, says. "Alas! inspite of the united efforts of the clergy of all denominations and the good examples given by our most distinguished citizens, by our legislature, and by the officers who are charged with the execution of the laws, drunkenness still reigns supreme and seems more then ever powerful for evil. It is, therefore, with great regret I have to state that in 1873 there were 500 more arrests for intemperance than in 1872. No one need be astonished at this, for instead of the number of licenses

being reduced, it has, this year, been increased by new ones."

The greatest number of offences is, consequently, due directly or indirectly to intemperance. In truth, this curse of drunkenness is like unto some mighty vortex, drawing into its abyss the unfortunate person who may chance to have approached within its reach. It is like a marsh whence issue a thousand foul and deadly vapors the pest and destruction of society. Where is the origine of nearly all the thefts of which we hear? --drunkenness! where is the source of nearly all the quarrels that disturb our place? --drunkenness! Whence flow all the disorderly conduct that reigns in our midst? --drunkenness! What is the cause of nearly all those assaults on our police and our inoffensive citizens? --drunkenness! What is the spring, the great fountain-head of the numberless blasphemies that daily arise like a foul vapor from the ocean of human iniquity? -- Again, and again, it is drunkenness! In a word this curse is the direct or indirect cause of all the crimes of the age. From out those taverns, schools of crimes and hot-beds of infamy, daily issue a lazy, noisy and immoral set of men, ready for any evil deed, whose chief and most

agreeable past-time is to quarrel and brawl and keep portions of our cities in a state of constant terror."

During the three years above mentioned, the number of arrests, was 15, 126 in Toronto, and 2, 282 in Ottawa, and out of these, 7,908 (or one half) in the former city, and 1,843 (or nearly two thirds) in the latter city, were due to intemperance.

These figures are more than sufficient to shew the deplorable influence of spirituous liquors on society, moreover the criminal records of all countries prove that the greatest number of crimes, and above all, the most heinous, would never be committed were it not for liquor.

" My experience, " says Mr. Ducpetiaux, inspector of prisons in Belgium—" extends over a quarter of a century, and I can testify that fully four fifths of the crimes and miseries which I have witnessed in my official capacity were due to intemperance." Mr. Quatelet declares that, " out of 1129 murders committed in France during the space of four years, 446 were caused by quarrels in taverns." " Whosoever knows anything about the criminal court " says Mr. Hill, of England, " must admit true what our judges never cease to repeat, that

the greatest number of crimes of all species are caused by intemperance." In the United States it is calculated that about sixty per cent of the crimes committed are due to drink. These proofs should certainly be sufficient to shew the baneful influences of spirituous liquors on the morals of the people.

V. Hereditary evils caused by alcohol.

Drunkenness can be transmitted from parents to children is a truth no one can deny. Therefore the drunkard, not only injures himself, but even those who are to come after him. Sad to see those poor children, whose parents were victims of intemperance, suffering in their moral, intellectual and physical faculties. Scrofula, deafness and a multitude of diseases form too often their sad heritage. Some are carried off by convulsions when yet infants, others grow up deformed and objects of pity or ridicule.

Idiocy frequently tells the fact of the parent's drunkenness. Some possess their intellectual faculties up to a certain age and then become incapable of future development ; some see those faculties fade away into the night of idiocy. A very striking paper,

published in the Edinburg Reviews on intemperance, mentions that out of 300 idiots in the state of Massachusetts, 145 were the children of drunken parents. Dr. Workman, superintendant of the Toronto Lunatic Asylum says, in his report for the year 1858 ; “ There are proofs beyond number that the children of those parents addicted to drink are predisposed to insanity.”

Such children also inherit a lack of good moral dispositions. They are irritable, lazy, and fond of drink, legacy left them by their parents. They have no desire to learn, have no taste for work, are unfit for any industrial profession, and sooner or later, become subject for our penal institutions.

It is not unfrequent to find entire families bearing the marks of inherited alcoholism. M. Morel states a case of drunkard who had three sons : the first had periodical madness ; the second lived in constant torpor and the third was a complete fool. “ Another ” says the same writer, “ had seven children, two died, when very young, of convulsions ; the third lost his mind when twenty-two years old ; the fourth had been a fool from his infancy ; the fifth was very odd in his ways ; a

young sister was subject to hysterics and on several occasions lost her reason ; the seventh was a good intelligent workman, but of a very nervous temperament and given to melancholy."

There is no exaggeration therefore, in placing amongst the chief evils that afflict society, that of intemperance. Sad to say it is on the increase. If society cannot up-root it, the time has long since come when serious efforts should be made to reduce its influence.

VI. Nature of different Liquors and their composition.

Up to this, gentlemen, I have spoken to you upon the effects of spirituous liquors upon the human system. Now I will say a word or two about the component parts of each kind of liquor. This is very important as the alcohol is modified by the substances contained in each different sort. I will then place the spirituous liquors in three classes.

The first class of liquors contain alcohol distilled from wine and mixed with 50 per cent of water with the addition of some other substances which give color or taste—these are the purest brandies. Liquors of the second

class are those formed of alcohol taken from other sources than wine. In the process of distillation certain essential oils are carried on as vapors with alcohol. These oils being bitter and injurious to the health give the liquor an unpleasant taste and increase its bad effects on the system.

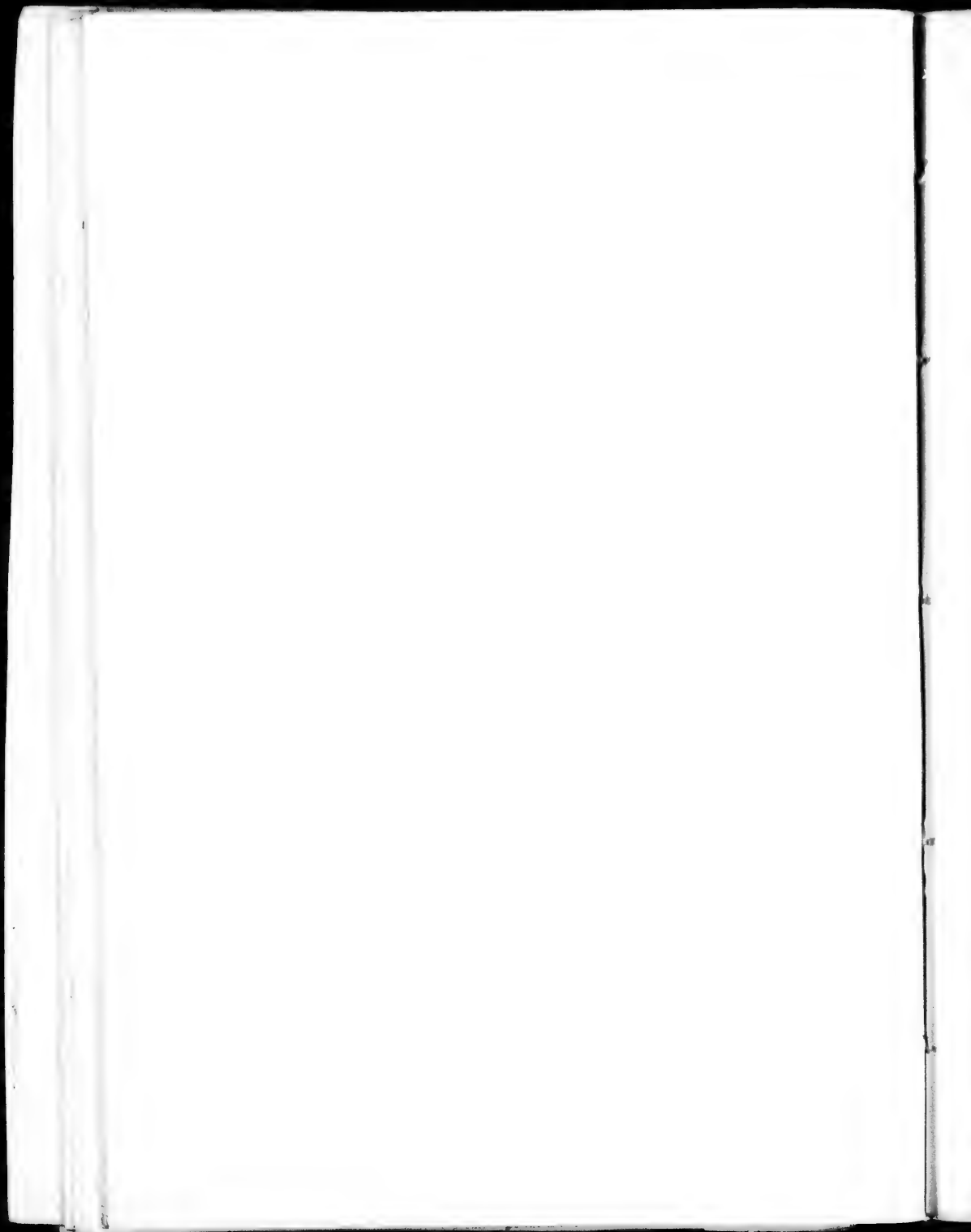
Alcoholism caused by this second class of liquors is extremely malignant. The principal liquors of this class are inferior brandies, such as are distilled from the residue of the grapes; whiskey, distilled from wheat or barley; gin and absinth, formed by alcohol distilled from grain and redistilled in contact with juniper-berries or absinth. The third class is formed of artificial compounds. The low price of these liquors makes them more dangerous as placing them within the reach of the poorest.

Not to abuse of your patience too long I will refrain, gentlemen, from explaining in detail the frauds practised in the manufacture and the mixture of liquors. I will merely mention a few of the substances, some harmless, some deadly poisons, which are used either to color or to restore to the liquor the strength lost by the mixture of water. These

from
dis-
l on
bitter
or an
ts on

ss of
cipal
such
apes;
rley;
stilled
with
class
e low
e dan-
ach of

ong I
ing in
acture
nerely
harm-
e used
or the
These



substances are litharge, acetate of lead, vitriol, copperas, oil of vitriol, aqua fortis, acetate of ammonia, nitrous ether, stramony, which is a powerful narcotic poison, alum, saffran, etc.

Having, for several years, been engaged, as professor of Engineering and Chemistry, in making the analysis of liquors of which I have made a special study, I found that the large portion of liquors sold in this country, above all those of the cheaper kind, contain more or less of these substances.

Whiskey, gin and brandy are the liquors most in use in this country.

I can safely state that real brandy, such as is distilled from the wine, can scarcely be found in France, not to speak of Canada or the United States. The aromatic flavours, possessed by the best imported brandies, betrays an inferior quality of alcohol which it was necessary to conceal. It is a fact, known perhaps to only a few, that the price of real brandy is, at least, three times that paid for what is imported into Canada, the United States or England.

From this you may see, that even the highest priced brandies may be classed under the second head. What then must we think

of the inferior liquors? Commun whiskey, or any inferior spirit converted into brandy by the adding of certain drugs intended to impart to the liquor the taste and the color of the liquor?

Of this fact, gentlemen, you may be convinced beyond all doubt by an experiment which I now perform in your presence, by which I will transform a very ordinary whiskey into what you generally call a first class brandy. (*)

I do not hesitate to declare that Cognac and all such brandies are liquors of the most hurtful kind.

Gin is of two kinds—one, when alcohol is distilled over again in contact with juniper berries; this is the *Natural*,—and one, when made of whiskey mixed with certain substances and more especially an essence containing the oil of juniper; this is the *Artificial*.

The oils found in these liquor sare distateful and hurtful. They tend to produce a fatty degeneracy in the liver. In England where

(*) Here the Rev. Lecturer, out of whiskey and nine or ten drugs mixed with it, made a bright liquor which he passed to several persons in the audience, and was found to have the taste and the strength of the very best brandy of commerce.

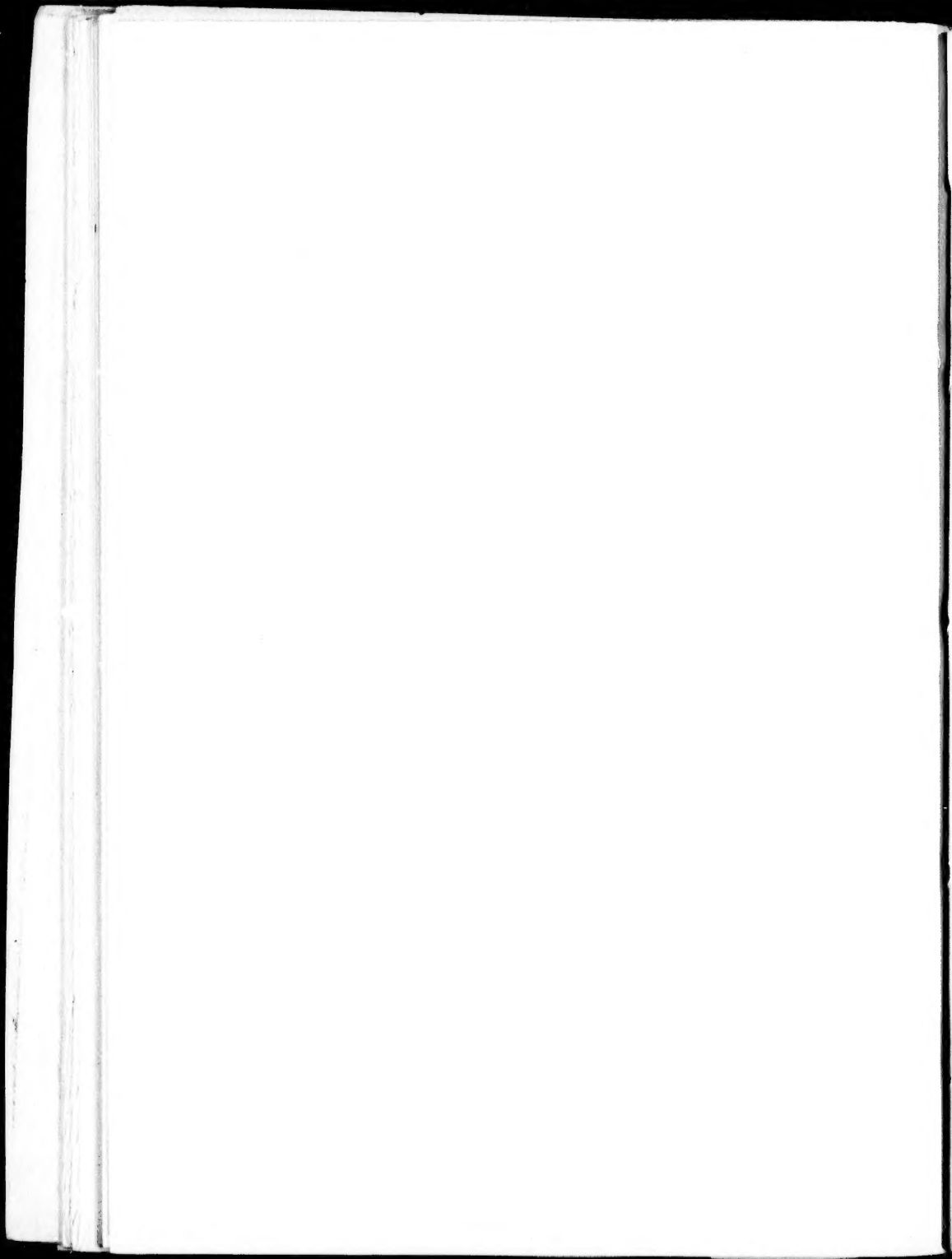
hiskey, or
brandy by
led to im-
e color of

be convin-
ent which
which I
iskey into
randy. (*)
at Cognac
of the most

chol is dis-
er berries;
en made of
ances and
ing the oil

are distate-
uce a fatty
and where

and nine or ten
e passed to seve-
ve the taste and
e.



gin is much used this is a frequent disease and is called, *gin drinker's liver*.

In a large number of canadian whiskey, I have found small quantities of sulphuric acid, copperas and other ingredients intended to strengthen them, but of a most deadly nature.

I will again presume upon your kind attention for a moment while I show you by an operation how by placing *highwine* in twice its quantity of water it is possible to give the liquor such seeming strength as to have it mistaken for proof.

You see, gentlemen, what the unfortunate drunkard daily swallows. He swallows it unknowingly, for were he to see those substances apart he would never dare to touch them.

I am sure that one of the most effectual means of putting a check to intemperance, would be to shew the people of all classes, to convince them of the fact that drinking is not only a waste of money, but is even a positive and terrible source of injury to the health. This was the idea, gentlemen, which lead me on to speak this evening of intemperance from this standpoint, and I must thank you sincerely for the kind attention you have given me.

The stamping in the minds of the people the great and self-evident truth that the substances of which are composed those liquors, are deadly poisons would be one of the most powerful means of reforming society. The formation of Temperance societies upon a truly christian basis, cannot but prevent all reasonable beings from raising to their lips the poisonous cup of intoxicating liquor. These means aided by Religion should suffice to stay this leva-tide of destruction from laying waste to our fair and promising country, from bearing on towards their too early graves the multitude of our citizens who might be ornaments in society and models in religion, were it not for this one misfortune. It is a grand cause and each person can labor for its advancement. All can give the example of sobriety and the sober and temperate man will be rewarded by health and peace in his home, by the admiration and esteem of his fellow men, the thanks and gratitude of posterity and finally by the justice of "the Giver of all good gifts."

people
sub-
quors,
most
The
on a
ent all
ps the
These
o stay
waste
earing
multi-
ments
e it not
cause
ement.
nd the
warded
the ad-
en, the
l finally
d gifts."